

CLAIMS

1 1. An apparatus comprising:
2 at least one processor;
3 a memory coupled to the at least one processor;
4 a database residing in the memory; and
5 a range constraint defined for the database, the range constraint including at least
6 one limit that is dynamically determined from data in the database.

1 2. The apparatus of claim 1 wherein the database comprises at least one database
2 table comprising at least one column, and wherein the range constraint is defined for a
3 selected column.

1 3. The apparatus of claim 2 wherein the at least one limit is dynamically determined
2 from data in the selected column.

1 4. The apparatus of claim 2 wherein the at least one limit is dynamically determined
2 from data in a column that is different than the selected column.

1 5. The apparatus of claim 1 wherein the at least one limit is dynamically determined
2 by performing statistical analysis on data in the database.

1 6. The apparatus of claim 1 further comprising a database manager residing in the
2 memory and executed by the at least one processor, wherein the range constraint defines a
3 range that includes the at least one limit, and wherein the database manager allows entry
4 of data into the database only when the data lies within the defined range.

1 7. The apparatus of claim 1 further comprising a database manager residing in the
2 memory and executed by the at least one processor, wherein the range constraint defines a
3 range that includes the at least one limit, and wherein:
4 if the data lies within the defined range, the database manager allows entry of the
5 data into the database; and
6 if the data lies outside of the defined range, the database manager allows entry of
7 the data into the database and provides a warning message.

- 1 8. An apparatus comprising:
2 at least one processor;
3 a memory coupled to the at least one processor;
4 a database table residing in the memory, the database table including at least one
5 column; and
6 a range constraint defined for a selected column in the database table, the range
7 constraint defining a range that includes at least one limit that is dynamically determined
8 from data in the selected column.
- 1 9. The apparatus of claim 8 further comprising a database manager residing in the
2 memory and executed by the at least one processor, the database manager allowing entry
3 of data into the selected column only when the data lies within the defined range.
- 1 10. The apparatus of claim 8 further comprising a database manager residing in the
2 memory and executed by the at least one processor, the database manager allowing entry
3 of data into the selected column when the data lies outside the defined range and in
4 response thereto, providing a warning message.
- 1 11. The apparatus of claim 8 wherein the at least one limit is dynamically determined
2 by performing statistical analysis on data in the selected column.

- 1 12. An apparatus comprising:
2 at least one processor;
3 a memory coupled to the at least one processor;
4 a database table residing in the memory, the database table including at least one
5 column; and
6 a range constraint defined for a selected column in the database table, the range
7 constraint defining a range that includes at least one limit that is dynamically determined
8 from data in a column that is different than the selected column.
- 1 13. The apparatus of claim 12 further comprising a database manager residing in the
2 memory and executed by the at least one processor, the database manager allowing entry
3 of data into the selected column only when the data lies within the defined range.
- 1 14. The apparatus of claim 12 further comprising a database manager residing in the
2 memory and executed by the at least one processor, the database manager allowing entry
3 of data into the selected column when the data lies outside the defined range and in
4 response thereto, providing a warning message.
- 1 15. The apparatus of claim 12 wherein the at least one limit is dynamically
2 determined by performing statistical analysis on data in the different column.

1 16. A computer-implemented method for defining a dynamic range constraint in a
2 database, the method comprising the steps of:

3 (A) defining a range constraint for a selected portion of the database; and

4 (B) defining at least one limit for the range constraint that is dynamically
5 determined from data in the database.

1 17. The method of claim 16 wherein the database comprises at least one table
2 comprising at least one column, and wherein the selected portion comprises a selected
3 column.

1 18. The method of claim 17 wherein step (B) defines at least one limit that is
2 dynamically determined from data in the selected column.

1 19. The method of claim 17 wherein step (B) defines at least one limit that is
2 dynamically determined from data in a column that is different than the selected column.

1 20. The method of claim 16 wherein step (B) defines at least one limit that is
2 dynamically determined by performing statistical analysis on data in the database.

- 1 21. A computer-implemented method for limiting data entry into a selected column in
2 a database table, the method comprising the steps of:
- 3 (A) defining a range constraint for the selected column, the range constraint
4 defining a range that includes at least one limit that is dynamically determined from data
5 in the database table; and
- 6 (B) allowing entry of data into the selected column only when the data to be
7 entered lies within the defined range.
- 1 22. The method of claim 21 wherein step (A) defines at least one limit that is
2 dynamically determined from data in the selected column.
- 1 23. The method of claim 21 wherein step (A) defines at least one limit that is
2 dynamically determined from data in a column that is different than the selected column.
- 1 24. The method of claim 21 wherein step (A) defines at least one limit that is
2 dynamically determined by performing statistical analysis on data in the database table.

- 1 25. A computer-implemented method for limiting data entry into a selected column in
2 a database table, the method comprising the steps of:
- 3 (A) defining a range constraint for the selected column, the range constraint
4 defining a range that includes at least one limit that is dynamically determined from data
5 in the database table; and
- 6 (B) if the data to be entered lies outside of the defined range, allowing entry of
7 data into the selected column, and in response thereto, providing a warning message.
- 1 26. The method of claim 25 wherein step (A) defines at least one limit that is
2 dynamically determined from data in the selected column.
- 1 27. The method of claim 25 wherein step (A) defines at least one limit that is
2 dynamically determined from data in a column that is different than the selected column.
- 1 28. The method of claim 25 wherein step (A) defines at least one limit that is
2 dynamically determined by performing statistical analysis on data in the database table.

- 1 29. A program product comprising:
2 (A) a database manager that allows defining a range constraint for a database, the
3 range constraint including at least one limit that is dynamically determined from data in
4 the database; and
5 (B) computer-readable signal bearing media bearing the database manager.
- 1 30. The program product of claim 29 wherein the computer-readable signal bearing
2 media comprises recordable media.
- 1 31. The program product of claim 29 wherein the computer-readable signal bearing
2 media comprises transmission media.
- 1 32. The program product of claim 29 wherein the database comprises at least one
2 database table comprising at least one column, and wherein the range constraint is
3 defined for a selected column.
- 1 33. The program product of claim 32 wherein the at least one limit is dynamically
2 determined from data in the selected column.
- 1 34. The program product of claim 32 wherein the at least one limit is dynamically
2 determined from data in a column that is different than the selected column.
- 1 35. The program product of claim 29 wherein the at least one limit is dynamically
2 determined by performing statistical analysis on data in the database.

1 36. The program product of claim 29 wherein the range constraint defines a range that
2 includes the at least one limit, and wherein the database manager allows entry of data into
3 the database only when the data lies within the defined range.

1 37. The program product of claim 29 wherein the range constraint defines a range that
2 includes the at least one limit, and wherein the database manager allows entry of data into
3 the database and provides a warning message when the data lies outside the defined
4 range.

- 1 38. A program product comprising:
2 (A) a database manager that allows defining a range constraint for a selected
3 column in a database table, the range constraint defining a range that includes at least one
4 limit that is dynamically determined from data in the selected column; and
5 (B) computer-readable signal bearing media bearing the database manager.
- 1 39. The program product of claim 38 wherein the computer-readable signal bearing
2 media comprises recordable media.
- 1 40. The program product of claim 38 wherein the computer-readable signal bearing
2 media comprises transmission media.
- 1 41. The program product of claim 38 wherein the database manager allows entry of
2 data into the selected column only when the data lies within the defined range.
- 1 42. The program product of claim 38 wherein the database manager allows entry of
2 data into the selected column and provides a warning message when the data lies outside
3 the defined range.

- 1 43. A program product comprising:
2 (A) a database manager that allows defining a range constraint for a selected
3 column in a database table, the range constraint defining a range that includes at least one
4 limit that is dynamically determined from data in a column that is different than the
5 selected column; and
6 (B) computer-readable signal bearing media bearing the database manager.
- 1 44. The program product of claim 43 wherein the computer-readable signal bearing
2 media comprises recordable media.
- 1 45. The program product of claim 43 wherein the computer-readable signal bearing
2 media comprises transmission media.
- 1 46. The program product of claim 43 wherein the database manager allows entry of
2 data into the selected column only when the data lies within the defined range.
- 1 47. The program product of claim 43 wherein the database manager allows entry of
2 data into the selected column and provides a warning message when the data lies outside
3 the defined range.

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